

**Notice of Allowability**

Application No.

10/777,921

Examiner

Tyler Willhite

Applicant(s)

HALBERT ET AL.

Art Unit

2189

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS. This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed 1/4/2007.
2. ☒ The allowed claim(s) is/are Claims 27-52.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date 2/11/2004
- ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
- ☐ Notice of Informal Patent Application
- ☒ Interview Summary (PTO-413), Paper No./Mail Date 20070301
- ☒ Examiner's Amendment/Comment
- ☒ Examiner's Statement of Reasons for Allowance
- ☐ Other \_\_\_\_\_

**DETAILED ACTION**

***Information Disclosure Statement***

1. The Information Disclosure Statement (IDS) filed on 2/11/2004 is in compliance and has been considered by the examiner.

***Examiner's Amendment***

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Phil Pedigo on March 1, 2007.

The application has been amended as follows:

On line 10 of claim 27, insert "the" between "and" and "memory".

On line 2 of claim 43, delete the phrase "double data rate".

***Allowable Subject Matter***

3. Claims 27-52 are allowed.
4. The following is an examiner's statement of reasons for allowance: A search of the prior art revealed Lai et al. (US Pat. 6,738,880) and Pohm et al. ("The Cost and Performance Tradeoffs of Buffered Memories", IEEE). Lai et al. disclose a buffer between a chipset and a memory module for temporarily storing write and read data for the memory module in such a manner that the chipset interface is electrically isolated from the memory interface. However, Lai et al. do not show interleaving the outputs of

Art Unit: 2189

multiple such buffers together. Pohm et al. show interleaving the outputs of caches that buffer main memory, resulting in improve system performance, but the operation of the cache buffers of Pohm et al. is significantly different from the operation of a buffer that temporarily stores data for a write or read transaction for a memory module so the interleaving of Pohm et al. cannot be combined with the buffer structure of Lai et al. The prior art of record including Lai et al. and Pohm et al. does not show a memory buffer with all the features of the claimed invention in the instant application wherein the outputs of more than one buffer are interleaved together.

The claims of the instant application are distinguishable from the claims of the parent application for at least the reason stated above for the claimed intention being distinguishable over the prior art because it is not obvious to interleave the outputs of multiple buffers with the structure recited in the claims of the instant application.

Therefore, a double patenting rejection would not be appropriate.

6. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

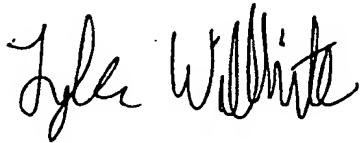
### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tyler Willhite whose telephone number is 571-270-1175. The examiner can normally be reached on 7:30am - 5pm M-F.

Art Unit: 2189

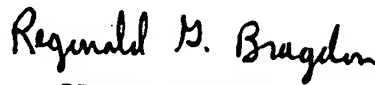
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Reginald Bragdon can be reached on 571-272-4204. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



TW  
March 1, 2007

Tyler Willhite  
Examiner  
Art Unit 2189



REGINALD BRAGDON  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100